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MAP INTELLIGENCE REVIEW

CIA/RR MR-37S-7

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CENTRAL INTELLIGENCE AGENCY

OFFICE OF RESEARCH AND REPORTS

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USSR Issue

CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

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MAPS

* The individual classification for each article in this Review is given at the end of the article.

ALIGNMENT OF THE IZVESTKOVAYA-URGAL-KOMSOMOL'SK-SOVETSKAYA GAVAN' RAIL ROUTE [1/]

Since World War II, considerable information has appeared on a large number of railroad and industrial installations associated with the construction, operation, and servicing of the Izvestkovaya-Urgal-Komsomol'sk-Sovetskaya Gavan' rail route. A study of these installations, most of which could be fairly accurately located, gave reason to doubt the accuracy of the alignment of this rail route as indicated on the principal maps of the USSR prepared in the United States.

Most of the installations do not appear at all on available US and Soviet maps and charts. Their locations were established by processing several thousand documents, many containing detailed descriptions, from the U.S. Army General Headquarters, Far East Command (FEC), and from the U.S. Air Force Far Eastern "Wringer Project." This material consisted mainly of prisoner-of-war (PW) interrogation reports, many of which contained sketches, and research supplements and town plans of the Allied Translator and Interpreter Section (ATIS), FEC. Intelligence components of

1. This project was undertaken in conjunction with the USSR Branch, Industrial Register, OCD, CIA, which contributed much to the initial research.

the Army Map Service and the USAF Aeronautical Chart and Information Center were consulted for additional information. This article summarizes the results of the exploitation of this mass of data and presents the best available information on the alignment of the railroad and the locations of settlements along the route. As additional data become available, refinements of this alignment may be necessary.

In preparing this article, the information was graphically presented on two maps. The railroad and industrial installations and the railroad alignment were first plotted on the AMS 1:250,000 series N504 (sheets NM 52-9, 12, NM 53-1, 2, 3, 4, 5, 6, 7, and NM 54-4, 7, 8), dated 1953, the largest-scale English-language map series available. 1/ In locating and plotting settlements and in ascertaining the railroad alignment, available Soviet and Japanese maps were consulted; physiographic features described or illustrated in PW reports were compared with similar features shown on available maps; where little or no source information was available, the most suitable terrain for railroad construction was selected; along railroad sectors for which fairly accurate alignment

1. AMS series N504 is hereafter referred to as Base Map A.

is available, settlements were located by using kilometer distances given in the Soviet Railroad Timetable and in ATIS and Wringer reports; and reported distances from bridges and tunnels were used. The spellings of several station names were taken from Japanese and German forms, some of which may not coincide with the actual Russian spellings. (Two copies of the resulting overlays have been made available for loan at the CIA Map Library under Call No. ML-CIA-83122.) The railroad alignment and locations of stations and settlements were then projected from the overlays to a WAC base (World Aeronautical Charts 203 and 204, at 1:1,000,000), with adjustments made to conform to the hydrographic rather than orographic features. 1/ The map was then reduced to the scale of 1:1,300,000 and accompanies this report as map CIA 12818.

The primary textual source used in compiling the map data was ATIS Research Supplement No. 101, The BAM Railroad, dated 14 May 1951, the most thorough study available on the subject. It was especially helpful in plotting the Izvestkovaya-Urgal line, because it provides kilometer distances between most of the settlements and includes sketch maps that show railroad alignment

1. WAC 203 and 204 are hereafter referred to as Base Map B.

in relation to adjacent physical features. FEC town plans showing PW camps and industrial installations along various stretches of the railroad were used in some cases. Many of these plans, even though they are only rough sketches, provide the best available source material for towns and railroad installations. Air Force Wringer maps provide useful information, particularly in the areas around Urgal, Duki, and Komsomol'sk. The locations of several towns were derived from Far East Command Intelligence Division, Headquarters, Armed Forces Far East, Technical Intelligence Service (TIS) Reports. Locational data on stations along the Komsomol'sk-Sovetskaya Gavan' railroad line were obtained from the 1950 Soviet timetable. Additional information was taken from a 1946 Soviet map, Karta SSSR, 1:2,500,000, a 1947 Soviet map, Soyuz Sovetskikh Sotsialiticheskikh Respublik, 1:4,000,000, and the Japanese General Staff topographic series at 1:100,000, dated 1943-44.

An alphabetical gazetteer at the end of this article gives geographic coordinates for each settlement, lists the source materials on the basis of which each was located, and indicates the status of the representation of each settlement on Base Maps A and B.

I. The Izvestkovaya-Urgal Railroad Line

This single-track, broad-gauge branch line of the Trans-Siberian Railroad is 205 miles long. The line starts at Izvestkovaya and follows the Kul'dur River almost due north to Yaurin. From Yaurin it proceeds along the Yaurin River valley to Anarap, then leads northeastward to Tyrma, crossing the Tyrma River approximately 1 mile southwest of the town. From Tyrma the line runs generally north, following first the Sutur River valley, then the Yagtygay River to its confluence with the Bureya near the settlement of Chekunda. From this point the line turns generally northeastward, following the Bureya and Sredniy Urgal Rivers to the rail terminus of Urgal.

Sketches in the ATIS BAM railroad study (BAM = Baykal-Amur Magistral') indicate that the original alignment of the railroad on Base Map A is correct. The alignment on Base Map B, however, requires adjustment, particularly on the stretch between Tyrma and Chekunda. The major deviation is between Orochan and Eriga, where the line should follow the valley of the Yagtygay River.

Until the Urgal-Duki section of the route is completed, the Izvestkovaya-Urgal line is the only rail exit from coal fields at Sredniy Urgal and Chagdamyn, which supply coking coal to the

Amurstal' steel plant in Komsomol'sk. The Izvestkovaya-Urgal line also serves as a supply route for the construction of the BAM Railroad eastward toward Duki. Available reports from hundreds of PW's who worked in the Urgal area give no positive indication of extension of the BAM Railroad westward from Urgal. Base Map A shows a railroad leaving the Izvestkovaya-Urgal line near Chekunda and following the Bureya River westward approximately 6 miles, where it crosses the river and continues northward along the Tuyun River; the existence of this line, however, is not confirmed by other available sources.

The known settlements along the Izvestkovaya-Urgal line are: Izvestkovaya, Karadov, Kul'dur, Pereval, Yaurin, Taranzhan, Zimov'ye, Urunda, Ekhilkan, Diarinka, Anarap, Tyrma, Pervomaysk, Malina, Moshka, Sogda, Ushman, Orochan, Yagdyn'ya, Mostvoi, Eriga, Chekunda station, Adonikan, Dul'nikan, and Urgal. The most important towns are Izvestkovaya, Kul'dur, Tyrma, and Urgal.

Izvestkovaya, a settlement of approximately 20,000 people, is a railroad junction on the Trans-Siberian Railroad and has some marshaling facilities. A railroad locomotive repair shop and a large machine plant producing railroad and motor-vehicle parts are also located here.

Kul'dur has a locomotive repair shop and two thermoelectric powerplants. Several small industrial spur lines are reported leading from Kul'dur in a northwestward direction toward the Kul'dur River.

Tyrma is located at the confluence of the Tyrma and Sutur Rivers. It should not be confused with the settlement of Ust' Tyrma, which is located to the northwest at the junction of the Tyrma and Bureya Rivers. Coordinates given on documents clearly referring to installations in the Tyrma area are more often the coordinates of Ust' Tyrma. The settlement of Tyrma reportedly also has locomotive repair facilities and several powerplants.

Urgal is a new town, founded according to reports in 1946. It is believed to be the administrative center of the adjacent region, supplanting the former center, Sredniy Urgal. Considerable confusion exists as to the exact location of the settlement. The town of Urgal on the south bank of the Sredniy Urgal River is frequently confused with the settlements of Sredniy Urgal and Ust' Urgal, which is located about 13 miles west-northwest on the Bureya River. From Urgal, a branch line runs about 10 miles to the east, where it bifurcates. The northeastern branch, approximately 2 miles long, leads to Sredniy Urgal, and the eastern branch covers

a distance of about 5 miles to Chagdamyn. At least four coal mines are located at each of these settlements, with further expansion and development underway. Urgal itself has no coal resources; it is primarily a railroad servicing center and is populated mainly by penal laborers and political exiles. Powerplants and large storage facilities have also been noted by PW's at Urgal.

II. The Urgal-Duki-Komsomol'sk Line

This railroad line, a Far-Eastern sector of the BAM Railroad, may be divided into two parts: (1) the western section, which is still under construction and extends from Urgal to Duki; and (2) the eastern section, from Duki to Komsomol'sk, which has been in operation since 1948. When the western section is completed, the entire sector will provide a vital link in the BAM Railroad System and shorten the haul of Urgal coal to Komsomol'sk by approximately 250 miles.

A. The Urgal-Duki Section

Construction of this section of the BAM Railroad appears to be progressing at a slow pace. Reports dated as late as January 1950 indicate that only a few miles of track had been laid. Far less information is available on the alignment of this section than on any of the other lines discussed. Prisoners of war who worked in the area generally agree that the railroad is being built to Duki, but the exact alignment is in doubt. The Urgal-Duki section is not shown on Base Map B. The approximate alignment given on Base Map A is contrary to that indicated by the majority of PW reports available on the subject. According to the alignment on Base Map A

the railroad leads in a north-northwest direction from Chagdamyn toward Ust' Niman, then follows the south bank of the Bureya River to approximately 134°E. From there the line turns to the southeast toward the Amgun' River and finally reaches Duki by way of the north bank of the Amgun'. Although this alignment has some documentary support, most intelligence sources indicate an alignment running southeast from Urgal.

According to the BAM study, the Wringer reports, and an evaluation of the terrain, the railroad follows a southeasterly course from Urgal approximately 25 miles to the Dul'nikan River. It then crosses the river and follows its left bank to the Urgal Tunnel, which cuts through the Bureinskiy Khrebet. The road bed is reportedly completed to the tunnel. Two convict PW's who were in the area in January 1950 report that the tunnel was bored through and practically completed. As the tunnel is reported to be 20 to 21 feet wide, it is assumed that double tracking through it is possible. According to the same sources, a siding and an air vent are located approximately in the center of the tunnel, and a second tunnel parallels the main tunnel.

East of the tunnel, the right of way has been cleared of trees for an undetermined distance. PW reports indicate that the line crosses the Sidorka River and follows the northern bank in an eastward direction, then recrosses the Sidorka a short distance above its confluence with the Amgun' River, continuing along the southern bank of the Amgun'. The greater number of populated places and the existence of a trail along the southern bank of the Amgun' River, as shown on Base Map A, support these reports. The railroad probably crosses to the northern bank of the Amgun' River at a point downstream from Badzhal, because PW reports from Duki indicate that the line will enter Duki by crossing a steel bridge over the Amgun'. The point where the trail that follows the Amgun' crosses from the southern to the northern bank was arbitrarily chosen as the site for the rail crossover.

The only settlements along the Urgal-Duki railroad sector described by PW's are Tunnel' Urgal and Duki. Tunnel' Urgal is described as a town of about 5,000 inhabitants located in the vicinity of the eastern entrance of the tunnel. The town includes the tunnel construction headquarters, tractor, automobile, and machinery repair shops, several fuel-storage tanks, and a powerplant.

Duki is a new settlement located on the west bank of the Duki River about 10 miles south of its confluence with the Amgun'. It is to be noted that the town of the same name found on several maps at the confluence of the Amgun' and Duki Rivers, about 6 miles east of the Amgun' railroad bridge (reported under construction in 1949), is an older settlement and not the Duki on the BAM Railroad. On Base Map A the new Duki is improperly located on the opposite side of the Amgun' River, about 12 miles northeast of the old Duki. The new Duki is relatively small, having a population of about 1,000. Industrial facilities are of only minor significance, consisting mainly of fuel-storage tanks, a construction warehouse, a vehicle repair shop, and railroad servicing facilities.

B. The Duki-Komsomol'sk Section

This 110-mile section of the BAM Railroad is single-tracked. Passenger and freight trains were operating over the line in 1948.

Between Duki and Gorin the railroad runs in a generally southeastern direction, skirting the western and southern shores of Lake Evoron. This alignment is based mainly on fragmentary information contained in the BAM railroad study and on Wringer reports showing isolated sections of the line. Other source material

proved to be of little help. Base Map B completely omits the Duki-Komsomol'sk line. On Base Map A the railroad line is shown running south from Duki along the Duki River and then swinging in a wide arc toward the southwest, eventually to follow the Gorin River to the settlement of Gorin. From Gorin the line follows a south- southeasterly course to Komsomol'sk, coinciding exactly with the alignment shown on Base Map A. Settlements along the Duki-Komsomol'sk section include Evoron, Kondon, Gorin, Malinski, Khurmuli, Dof, Kharikaso, Start, Silinka, and Komsomol'sk. Identification and location of these settlements is based mainly on the BAM railroad study and on the FEC town plan of Komsomol'sk. With the exception of Komsomol'sk, none of the towns and settlements are shown on Base Map A. The towns of Kondon, Gorin, Khurmuli, and Start are shown on Base Map B, but their location differs from that in available Far East Command sources. All of the towns and settlements listed have some railroad facilities and industrial installations, with Khurmuli and Komsomol'sk being the most important urban centers along the line.

Khurmuli (also spelled phonetically "Khormorin" or "Hormorin" on some maps and in some reports) has a population of over 3,000. Industrial installations in Khurmuli include a locomotive repair shop,

vehicle repair shops, oil-storage facilities, powerplants, and a machine shop producing railroad, motor vehicle, and tractor parts.

Komsomol'sk, the eastern terminus of the BAM Railroad, is a comparatively young city that has rapidly developed into an important administrative and military center of Eastern Siberia. Its population is estimated at 150,000. Komsomol'sk is the site of the Amurstal' steel mills, the only heavy metallurgical establishment in the Soviet Far East. Other industries include shipyards, aircraft assembly, sawmills, and woodworking plants.

III. The Komsomol'sk-Sovetskaya Gavan' Line

According to available sources, construction of the 277-mile Komsomol'sk-Sovetskaya Gavan' line was initially undertaken in 1942 by Soviet convict and slave laborers and German PW's. Reports indicate that trains were operating over this line in 1945. Late in that year, 20,000 Japanese PW's were assigned to remedy the serious construction deficiencies on the line. The first indication of a regular passenger train schedule is found in the Soviet 1947-48 winter railroad timetable.

At Komsomol'sk the line crosses the Amur River to Pivan' by a train ferry during the ice-free months. During the winter, tracks are laid across the ice. Some PW's have reported that the Soviets were pushing the construction of a tunnel through a hill located approximately 3 miles northwest of the Pivan' railroad station. The tunnel would serve as an approach to a planned bridge across a narrow part of the Amur River north of the point where the ferry crosses. Reportedly a railroad bed extending from the eastern end of the tunnel to the main line is under construction. From Pivan' the line runs generally east-southeast, following the alignment shown on Base Map B, to the town of Geyter. From this point the line continues to El'digan, south of the alignment on Base Map B, which

shows the line extending almost due east. From El'digan the line turns sharply to the south-southeast to Poni, then swings back to the northeast to Pochepta, where it rejoins the Base Map B alignment. From Pochepta the line follows the north bank of the Khungari River to Nizhniye Udomi. At this point it turns south, crossing the Khungari River to Aksaka, then follows the left bank of the river. In the vicinity of Verkhniye Udomi, at the confluence of the Verkhne-Udomi and Khungari Rivers, the line recrosses the river. The alignment as shown on Base Maps A and B differs in that the railroad does not cross the Khungari between Nizhniye and Verkhniye Udomi, but continues to follow the right bank of the river.

From Verkhniye Udomi the line runs almost due east to Muli, cutting through a tunnel in the Sikhote Alin Mountains near Kuznetsovski. From Muli, the railroad follows the Muli River to Tuluchi, whence it continues along the west bank of the Tumnin River in a generally south-southeast direction to Mongokhto. This alignment deviates markedly from that on Base Maps A and B. On both of these the railroad is shown as turning southeast between Oune and Kosgrambo, crossing the Sikhote Alin Range at a point approximately 15 miles south of Muli, and following the Akur River to its confluence with the Tumnin.

From Mongokhto, the line follows the coast of the Gulf of Tartary, passes through Toki, then parallels the shore of Vanino Bay to Pyatisotka, in the Sovetskaya Gavan' complex, which includes also the port of Vanino, a naval base, and other military installations, as well as the town of Sovetskaya Gavan'. At present, there is no evidence that the line continues to Sovetskaya Gavan' proper. PW's have reported grading for an extension to the naval base on Postovaya Bay. On both Base Maps A and B, this final stretch south of the mouth of the Tumnin River does not follow the Gulf of Tartary. Instead, it is shown south of the river mouth as running approximately 3 miles inland, bypassing Vanino Bay, and terminating at Sovetskaya Gavan' proper.

The Komsomol'sk-Sovetskaya Gavan' Line is an important military and commercial supply route. Sovetskaya Gavan' is the headquarters of the Soviet Seventh Fleet. Port Vanino, the commercial port for the Sovetskaya Gavan' area, is a major shipping point to Kamchatka, Chukotskiy Peninsula, Magadan, and the Kolyma mining area. By routing supplies through the port of Vanino instead of the main Soviet Far East port of Vladivostok, the shipping distance to these areas is reduced by as much as 1,500 miles per round trip.

Additional towns located along the Komsomol'sk-Sovetskaya Gavan' Line are Kumte, Serbino, Sel'khin, Kun, Khungari, Kenoy, Sikhote, Sollu, Syrovatka, Kenada, Dzhigdasi, Koto, Akur, Tumnin, Imbo, Dyuanka, and Vanino. (SECRET)

IV. Gazetteer of Settlements

Settlements	Coordinates (based on 1:250,000 overlays)	Status on -- AMS Series N504 (Base Map A)	Status on -- WAC #203 & #204 (Base Map B)	Sources Indicating Location of Towns
Adonikan	50°57'N-132°24'E	Winter quarters only	Not shown	BAM RR Study, TIS Reports, 1:2,500,000 Soviet Map
Aksaka	50°20'N-138°30'E	Not shown	Not shown	1950 Soviet Timetable
Akur	49°47'N-140°07'E	Shown	Not shown	1950 Soviet Timetable
Anarap*	49°57'N-132°01'E	Not shown	Not shown	BAM RR Study
Chagdamyn	51°07'N-132°59'E	Shown	RR station shown	BAM RR Study, TIS Reports
Chekunda Station	50°55'N-132°21'E	Improper location	Improper location	BGN, BAM RR Study
Diarinka*	49°51'N-131°58'E	Not shown	Not shown	BAM RR Study
Dof*	50°46'N-136°56'E	Settlement symbol	Not shown	Wringer Reports, BAM RR Study, FEC Town Plan "Komsomol'sk"
Duki	51°39'N-135°52'E	Shown	Improper location	BGN, BAM RR Study, Wringer Reports
Dul'nikan	51°02'N-132°29'E	Not shown	Not shown	BAM RR Study
Dyuanka	49°12'N-140°19'E	Improper location	Shown	1950 Soviet Timetable, BAM RR Study, Wringer Reports
Dzhigdasi	50°21'N-139°47'E	Not shown	Not shown	1950 Soviet Timetable, 1:2,500,000 Soviet Map
Ekhilkan	49°43'N-131°47'E	Not shown	Not shown	BAM RR Study, Wringer Reports

* An asterisk indicates phonetic spelling.

Gazetteer of Settlements
Cont.

Settlements	Coordinates (based on 1:250,000 overlays)	Status on -- AMS Series N504 (Base Map A)	Status on -- WAC #203 & #204 (Base Map B)	Sources Indicating Location of Towns
Eriga*	50°50'N-132°20'E	Settlement symbol	Not shown	BAM RR Study, Wringer Reports
Evoron	51°25'N-136°24'E	Not shown	Not shown	BAM RR Study, Wringer Reports
Geyter	50°24'N-137°21'E	Settlement symbol	Different town shown	1950 Soviet Timetable
Gorin	51°11'N-136°40'E	Not shown	Improper location	BAM RR Study, Wringer Reports, TIS Reports
Imbo	49°21'N-140°06'E	Settlement symbol	Different town shown	1950 Soviet Timetable
Izvestkovaya	48°59'N-131°33'E	Shown	Not shown	1:2,500,000 Soviet Map, 1:4,000,000 Soviet Map, BAM RR Study
Karadov*	49°05'N-131°36'E	Settlement symbol	Not shown	BAM RR Study, TIS Reports, Wringer Reports
Kenada	50°08'N-139°36'E	Not shown	Not shown	1950 Soviet Timetable
Kenoy	50°16'N-138°33'E	Not shown	Not shown	1950 Soviet Timetable
Kharikaso*	50°44'N-136°55'E	Settlement symbol	Not shown	BAM RR Study, FEC Town Plan, TIS Reports, Wringer Reports
Khungari	50°22'N-138°08'E	Not shown	Not shown	1950 Soviet Timetable
Khurmuli*	50°50'N-136°57'E	Settlement symbol	Improper location	BAM RR Study, Wringer Reports, TIS Reports

Komsomol'sk	50°33'N-136°59'E	Shown	Shown	1:4,000,000 Soviet Map, BGN, 1:2,500,000 Soviet Map
Kondon	51°15'N-136°35'E	Not shown	Not shown	1:4,000,000 Soviet Map, 1:2,500,000 Soviet Map, BGN
Kosgrambo	50°13'N-138°51'E	Not shown	Not shown	1950 Soviet Timetable
Koto	50°18'N-137°58'E	Not shown	Not shown	1950 Soviet Timetable
Kul'dur	49°12'N-131°39'E	Shown	Shown	BGN, 1:4,000,000 Soviet Map, BAM RR Study
Kumte	50°28'N-137°11'E	Settlement symbol	Not shown	1950 Soviet Timetable,
Kun	50°05'N-139°51'E	Different town shown	Not shown	1:2,500,000 Soviet Map, 1:4,000,000 Soviet Map, BGN, Wringer Reports
Kuznetsovskiy	50°14'N-139°05'E	Not shown	Not shown	1950 Soviet Timetable, BGN
Malina*	50°15'N-132°16'E	Not shown	Not shown	BAM RR Study
Malinski*	50°53'N-136°55'E	Not shown	Not shown	TIS Reports, Wringer Reports
Mongokhto	49°15'N-140°19'E	Settlement symbol	Not shown	1950 Soviet Timetable
Moshka	50°17'N-132°19'E	Not shown	Not shown	1:2,500,000 Soviet Map
Mostvoi*	50°37'N-132°24'E	Not shown	Not shown	BAM RR Study
Muli	50°11'N-139°16'E	Not shown	Not shown	1950 Soviet Timetable
Nizhniye Udomi	50°23'N-138°29'E	Shown as Udomi	Not shown	1950 Soviet Timetable, 1:4,000,000 Soviet Map, 1:2,500,000 Soviet Map

* An asterisk indicates phonetic spelling.

Gazetteer of Settlements
Cont.

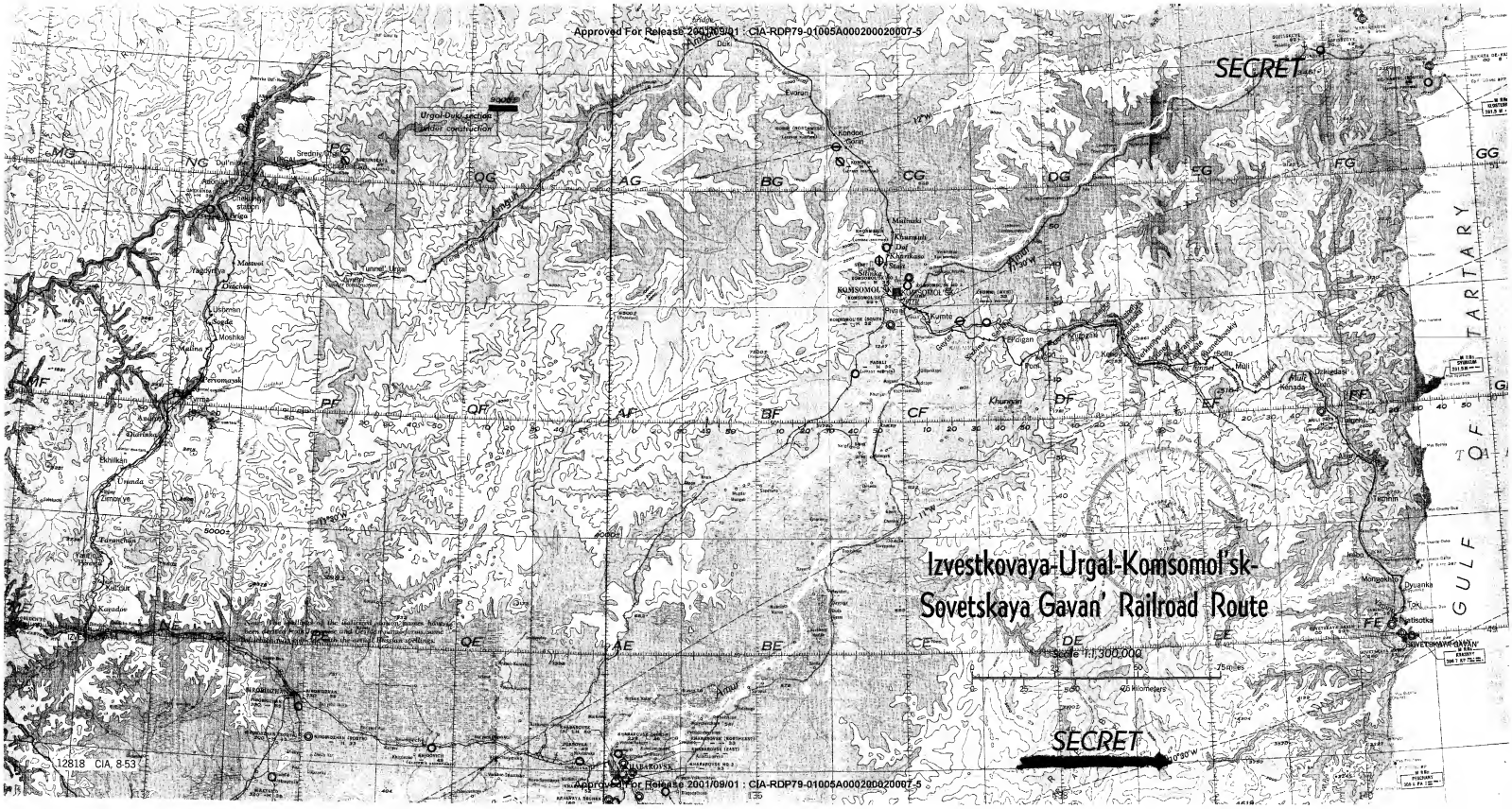
Settlements	Coordinates (based on 1:250,000 overlays)	Status on -- AMS Series N504 (Base Map A)	Status on -- WAC #203 & #204 (Base Map B)	Sources Indicating Location of Towns
Orochan*	50°32'N-132°21'E	Settlement symbol	Not shown	Wringer Reports
Oune	50°13'N-138°43'E	Not shown	Not shown	1950 Soviet Timetable, 1:2,500,000 Soviet Map
Pereval*	49°18'N-131°41'E	Improper location	Not shown	BAM RR Study, Wringer Reports
Pervomaysk*	50°06'N-132°13'E	Not shown	Not shown	BAM RR Study, Wringer Reports
Pivan'	50°30'N-137°04'E	Shown	Shown	1950 Soviet Timetable, 1:4,000,000 Soviet Map, BGN
Pochepta	50°24'N-138°16'E	Tungus Tribe Camp shown	Different town shown	1950 Soviet Timetable, 1:2,500,000 Soviet Map
Poni	50°15'N-137°50'E	Not shown	Not shown	1950 Soviet Timetable
Pyatisotka	49°04'N-140°16'E	Not shown	Not shown	1950 Soviet Timetable, FEC Town Plan "Sovetskaya Gavan"
Sel'khin	50°21'N-137°36'E	Settlement symbol	Not shown	1950 Soviet Timetable
Serbino*	50°21'N-137°34'E	Settlement symbol	Different town shown	1950 Soviet Timetable, TIS Reports
Sikhote	50°14'N-138°58'E	Not shown	Not shown	1950 Soviet Timetable
Silinka*	50°39'N-136°55'E	Settlement symbol	Not shown	Wringer Reports, TIS Reports, BAM RR Study, FEC Town Plan

Sogda*	50°21'N-132°16'E	Not shown	Not shown	TIS Reports
Sollu	50°15'N-139°08'E	Not shown	Not shown	1950 Soviet Timetable
Sredniy Urgal	51°08'N-132°55'E	Shown	Not shown	1:4,000,000 Soviet Map, BAM RR Study
Start*	50°41'N-136°54'E	Settlement symbol	Shown	Wringer Reports, TIS Reports, BAM RR Study, FEC Town Plan
Syrovatka	50°05'N-139°25'E	Not shown	Not shown	1950 Soviet Timetable
Taranzhan*	49°24'N-131°35'E	Different town shown	Not shown	Wringer Reports, FEC Town Plan
Toki	49°07'N-140°20'E	Not shown	Not shown	1950 Soviet Timetable, 1:2,500,000 Soviet Map
Tuluchi	49°58'N-139°57'E	Different town shown	Not shown	1950 Soviet Timetable
Tumnin	49°38'N-140°09'E	Not shown	Not shown	1950 Soviet Timetable, 1:2,500,000 Soviet Map
Tunnel' Urgal	50°36'N-133°17'E	Not shown	Not shown	BAM RR Study, Wringer Reports, TIS Reports
Tyrma	50°02'N-132°08'E	Not shown	Not shown	BAM RR Study, Wringer Reports, 1:2,500,000 Soviet Map, 1:4,000,000 Soviet Map
Urgal	51°04'N-132°44'E	Settlement symbol	Settlement symbol	BAM RR Study, Wringer Reports, BGN, TIS Reports
Urunda*	49°39'N-131°41'E	Improper location	Not shown	BAM RR Study
Ushman	50°24'N-132°16'E	Not shown	Not shown	BAM RR Study, TIS Reports

* An asterisk indicates phonetic spelling.

Gazetteer of Settlements
Cont.

Settlements	Coordinates (based on 1:250,000 overlays)	Status on -- AMS Series N504 (Base Map A)	Status on -- WAC #203 & 204 (Base Map B)	Sources Indicating Location of Towns
Vanino	49°05'N-140°16'E	Improper location	Improper location	1950 Soviet Timetable, BGN, 1:4,000,000 Soviet Map
Verkhniye Udomi	50°14'N-138°36'E	Not shown	Not shown	1950 Soviet Timetable, 1:2,500,000 Soviet Map
Yagdyn'ya	50°34'N-132°23'E	Settlement symbol	Not shown	1:4,000,000 Soviet Map, BAM RR Study
Yaurin	49°20'N-131°38'E	Improper location	Not shown	BAM RR Study
Zimov'ye	49°36'N-131°36'E	Improper location	Not shown	BAM RR Study



THE URALS-PECHORA RAILROAD

The construction of a railroad line between the industrial region of the Urals and the Pechora coal basin has been both suggested and rumored for more than 20 years. Such a line would be especially important in assuring the continued rapid growth of the Urals metallurgical industry. The connection would make possible the shipment of Vorkuta coking coal to the Urals metallurgical centers, eliminating the inefficient and excessively long hauls from the Kuzbas and Karaganda fields; the ready accessibility of the Vorkuta fuel would make available larger quantities of the low-grade reserves of the Kizel Basin for more economical use as a fuel and as a raw material in the chemical and ferroalloy industries; and in time of war the line would make possible a relatively uninterrupted supply of fuel to the Urals and would also provide an outlet for the products of the Urals to the Northern Sea Route by way of the branch line between Vorkuta and Salekhard.

According to available information, the first mention of the Urals-Pechora railroad was made in 1931 in conjunction with plans for new railroads to serve the Urals-Kuznetsk metallurgical combine. The line was to lead north from Solikamsk (59°40'N-56°45'E) and

make connection with the Kotlas-Vorkuta railroad, which at the time was also in the planning stage. In the period from 1939 to 1942, when the latter railroad was under construction, it was falsely rumored that construction of the Urals-Pechora line was also underway and nearly completed. In 1947, Soviet sources refocused attention on the Urals-Pechora line, announcing its future establishment and planned electrification. The next mention of the line was in an unconfirmed intelligence report dated 1951, which claimed that the line had been surveyed between Ust'-Kozhva (65°08'N-57°00'E) on the Kotlas-Vorkuta line and Solikamsk on the Perm system and that construction work might already have been started.

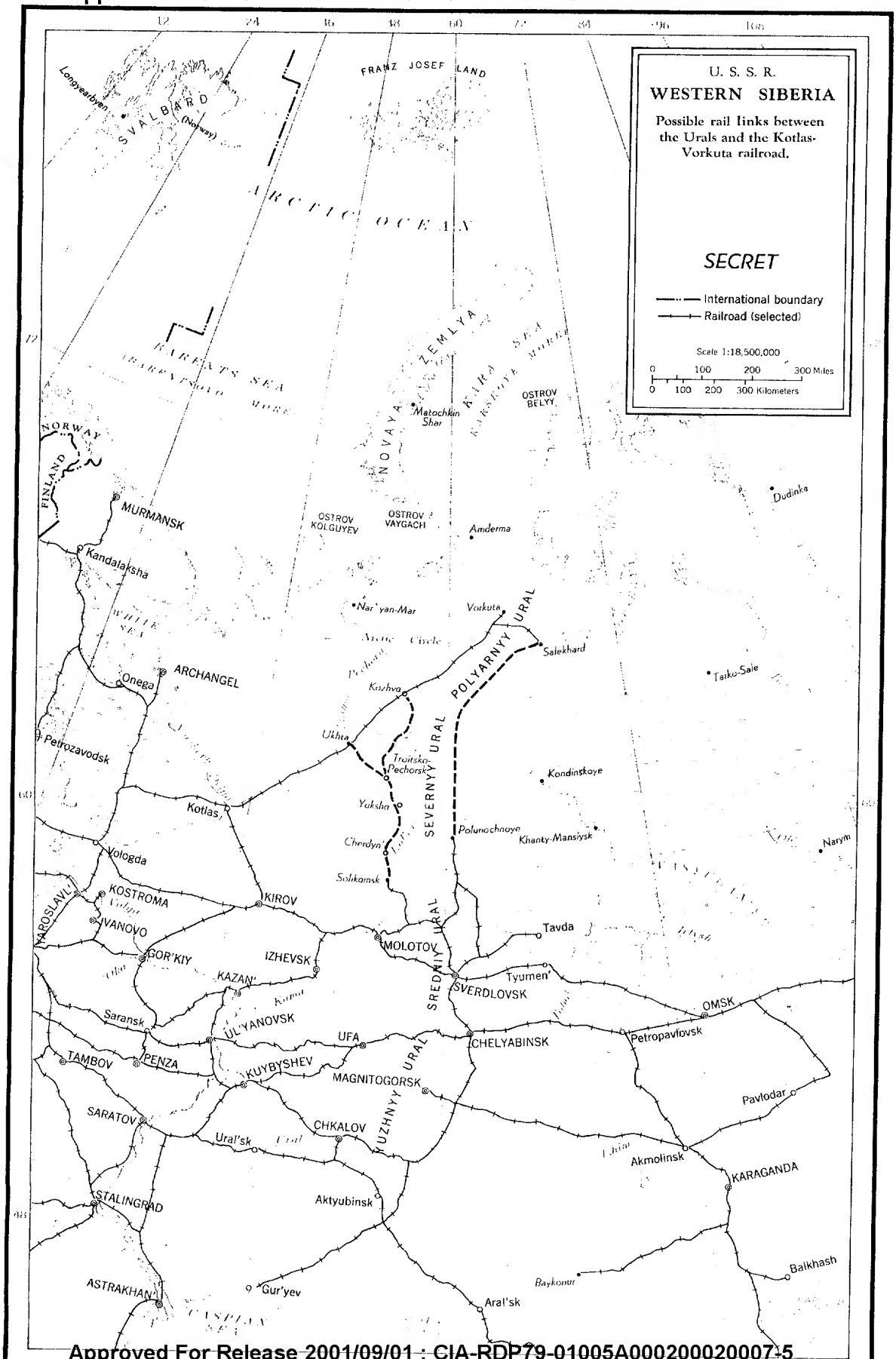
In a report dated this year (1953), a schematic map indicates that the line is under construction, but its terminals are shown as Solikamsk and Ukhta (63°34'N-53°42'E). As in previous reports, the exact alignment of the railroad is not given; that indicated is admittedly guesswork. The supposed route extends north from Solikamsk to Troitsko-Pechorsk (62°42'N-56°13'E), crossing the Kol'va River at Cherdyn' (60°25'N-56°29'E). In this sector it is possible that the line follows the high right bank of the Kol'va to the settlement of Yaksha (61°50'N-56°52'E), and then parallels the raised left bank of the Pechora to Troitsko-Pechorsk. From

Troitsko-Pechorsk the line turns northwest and reaches Ukhta via the elevated left bank of the Izhma. The route is between 340 and 355 miles long.

There is also the possibility that the Soviets will effect the desired connection east of the Urals. Here, presumably, the line would extend northward from Polunochnoye (60°55'N-66°40'E) to Salekhard (66°30'N-66°40'E), where Vorkuta coal is already accessible by rail. The estimated distance is over 500 miles.

Of the three possible routes, the Solikamsk-Ust'-Kozhva, the Solikamsk-Ukhta, and the Polunochnoye-Salekhard, the last seems least desirable. Not only is this route the longest of the three, but the region through which it would pass has more swampy terrain, more large rivers, and more extensive permafrost areas than would be encountered west of the Urals. Construction over permafrost would be a relatively minor problem west of the Urals, but would be an important factor in the construction of a railroad from Polunochnoye-to Salekhard, especially in the northern section. Climatic conditions also are more severe in western Siberia than in eastern European Russia. Siberian winters are usually much colder and last longer.

Of the two possible routes west of the Urals, the Solikamsk-Ukhta connection appears to have more merit. The estimated length of this line would be roughly 30 miles shorter than a Solikamsk-Ust'-Kozhva connection, and the line would lead from the Urals directly to the largest town on the line between Kotlas and Vorkuta. (SECRET)



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THE CURRENT INTELLIGENCE VALUE OF THE GREAT SOVIET WORLD ATLAS

Since its publication in the late 1930's the Great Soviet World Atlas [1] has proved itself an extremely valuable reference source for political, geographical, and economic information on the USSR. The series of maps in the second half of Volume I show the overall distribution of industry, agriculture, and natural resources on a countrywide scale. Volume II provides in addition, a complete set of maps at larger scale covering the individual regions of the Soviet Union. These regional maps usually appear in pairs. One serves as an orientation map and shows the relief, transportation net, and most of the settlements, including those with populations of 500 people or even less. The second, by means of color tints, pictorial symbols, and pie graphs, attempts to summarize the nature and to some extent the relative importance of the various economic activities carried on in the region.

These country and regional maps are one of the most valuable sources for pre-World War II economic information on the Soviet Union. As background material for many current intelligence problems they are still worthy of careful study, but it is necessary to

1. Bol'shoy Sovetskiy Atlas Mira, Volumes I (1937) and II (1939), Moscow.

emphasize that the Atlas must be used with discretion and caution. As an index to the contemporary distribution pattern it is neither complete nor accurate. Due allowances must be made for the limitations inherent in the work itself, as well as for dislocations caused by the war and expansion subsequent to the war. A few examples of these limitations will be cited to alert the economic analyst to the types of problems he may encounter.

Propaganda aspects must be kept constantly in mind, for the Soviets conceived the Atlas as a device for demonstrating the superiority of socialist economy over capitalist economy. The economic data presented were deliberately selected to emphasize -- or often to exaggerate -- the material advances made since the revolution. Comparisons between prerevolutionary and postrevolutionary levels of production were made frequently. In fields such as agriculture and animal husbandry, however, where progress was nonexistent or trifling, comparisons between prerevolutionary and postrevolutionary data were studiously avoided. For example, since the number of cattle had declined significantly below both the prerevolutionary level of 60.6 million head in 1916 and the precollectivization level of 70.7 million in 1928, comparisons on Plate 158 of Volume I of the Atlas were arbitrarily restricted by the compilers to the years 1934-36 -- the period when livestock

production was beginning to regain its former levels. Actually, the indicated increase from 33.5 to 46.0 million during these three years gives a totally false impression of rapid expansion in the cattle industry.

Plates 155-156 of Volume I show a similar exaggeration of the extension of Soviet agriculture into the Far North. Two lines supposedly indicate the northern limits of agriculture in 1916 and 1935. The 1935 line, which is shown in a prominent purple hue, in many places is 400 or 500 miles north of the 1916 line. Presumably the Soviet development of new varieties of plants that are more resistant to frost made this striking northward extension possible. Actually, this map, which also shows the distribution of the crop area in 1935, affords the best evidence of the limited value of the loudly acclaimed achievements of Soviet science and planning. A careful study of the map discloses that the newly established northern limit of agriculture is largely a myth, for there are no agricultural areas worthy of note north of the 1916 line.

The same plates provide another example of deliberate selection of a nontypical base to magnify Soviet achievements. The map shows the distribution of the crop area in 1916 by dull yellow dots, each dot being equivalent to 5,000 hectares. The increase in the crop

area between 1916 and 1935 is indicated by equivalent but far more prominent purple dots. Although data for more normal years such as 1913 were probably available to the compilers of the Atlas (and were no doubt more accurate), the war year 1916 was chosen. Since the war caused a reduction in the crop area of about 9 percent between 1913 and 1916, the illustrated increase of the sown area under the Soviet regime is exaggerated by this amount. Roughly 10 million hectares, or about one-fifth of the indicated increase in the sown area between 1916 and 1935, represents the normal return to production of land temporarily taken out of cultivation by the war.

One serious criticism concerns the units of measurement used on the economic maps in the Atlas. Industrial production is generally expressed in terms of 1926-27 ruble values. Such a fixed base is usually desirable for measuring production, because it nullifies the fluctuations due to the changing price levels over a period of time and thus gives a clearer picture of the actual changes in physical output. Under the contemporary conditions of the Soviet economy, however, it served also as a means for over-emphasizing the new and rapidly developing branches of heavy industry. Many commodities were produced for the first time in the Soviet Union during the Five Year Plans beginning in 1928.

For such commodities, 1926-27 prices were not available and the Soviets adopted the technique of using the prices at which the articles were valued when first produced. The initial costs of producing such new items as trucks and tractors naturally would be very high. This was especially true in Soviet industry because of the existing low levels of productivity. As Soviet industry progressed to mass production of trucks and tractors, the cost of producing these articles decreased considerably. The initial values used for measuring gross production, however, remained unchanged. As a result of this procedure, the magnitude and relative importance of the heavy industries, of which the Soviets are so proud, are considerably exaggerated on the maps. Other indices, such as the number of workers employed, might have been more revealing in evaluating the importance of heavy industry in relation to light industry or to agriculture.

In addition to these criticisms concerning the manner in which the Atlas was compiled, it is obvious that the passage of time has made much of the material obsolete. For example, the value of the population density maps, Plates 11 and 12 of Volume II, has been significantly reduced by forced and voluntary migrations during and since the war. In some parts of the Soviet Union these

population displacements were of such a magnitude that they constitute a factor that should be considered in any detailed economic study. For example, a study of the contemporary food-processing industry in the Lower Volga Region would necessarily require consideration of the possible effects that the forcible resettlement of German ethnic groups may have had on local agricultural production and on the operations of the smaller plants in the former Volga-German ASSR. Similar allowances would have to be made in other regions -- not only in the areas covered by the dissolved Kalymk ASSR, Crimean ASSR, and Karachay AO, but wherever else large-scale population displacements occurred.

The emphasis the Soviet Government has placed since the war upon increasing the relative importance of livestock raising in the rural economy has no doubt altered to some extent the relative proportions of grass, grains, and industrial crops in the crop rotations of the southern part of European USSR. As a result, the country maps showing the distribution of these crops and the various kinds of livestock, as well as the regional maps showing land use, may require revision.

The wartime evacuation of numerous industrial plants from the European parts of the Soviet Union to the Urals, Central Asia, and Siberia is another factor which must be considered. As a result of this displacement, the relative significance of the industries in many of the eastern regions of the USSR is now greater than the maps indicate.

Changes in the transportation network have also been extensive since the compilation of the Atlas. In the western parts of European USSR considerable lengths of rail lines were torn up during the war. Many have since been reconstructed, but some stretches have not yet been rebuilt. On the other hand, new railroads, roads, and waterways have been added to the prewar network. The Stalingrad area is an excellent example of how extensive such changes may have become. From the eastern bank of the Volga River opposite Stalingrad, a rail line extends eastward to Vladimirovka, providing direct rail connection between Stalingrad and Astrakhan'. In 1952 the opening of the Volga-Don Canal also linked Stalingrad with the Don River and the Black Sea. The formation of a large lake, the Tsimlyansk Reservoir, necessitated the rerouting of some railroads and roads southwest of Stalingrad. All of these factors had a considerable influence on the flow of commodities through Stalingrad.

Electric power production and transmission have also been expanded considerably since the compilation of the Atlas. For example, the completion of the new hydroelectric stations along the Zanga River, southwest of Lake Sevan, has no doubt materially altered the power network in the Armenian SSR. As a result of these and other projects, considerable research would be necessary to bring up to date the basic data indicating electric power output on both the country and regional maps. (CONFIDENTIAL)

AN ERROR IN REPORTED SOVIET MAPPING PLANS FOR THE SATELLITES

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Several [redacted] reports of the last six months have given indications of the Soviet geodetic program for mapping in the Satellite countries of eastern Europe. All have erroneously inferred that, for mapping purposes, the prime meridian has been changed from the heretofore accepted meridian of Greenwich. It has been variously reported, for example, that:

(1) Under the new system, the prime meridian will run through Moscow.

(2) All coordinates will be uniformly oriented toward Pulkovo as 0°.

(3) All coordinates will be uniformly plotted from the prime meridian of Pulkovo.

(4) The Soviet Bloc has been ordered to revise all European charts and maps so that the prime meridian will pass through Moscow instead of Greenwich.

In 1946 the Soviets decreed the adoption of the Krasovskiy ellipsoid of revolution with the initial point at the rotunda of the observatory at Pulkovo as the datum for horizontal geodetic control throughout the entire area of the USSR. The geodetic coordinates of the initial point are:

59°46'18.55"North

30°19'42.09" East (of Greenwich)

The Soviet program for the Satellites, as reported, does not imply a change in the prime meridian from Greenwich to one passing through either Moscow or Pulkovo. It implies rather that the horizontal geodetic control of the Satellites is to be based on the observatory at Pulkovo as the initial point instead of the separate initial points of the Satellites, as heretofore. The erroneous reports are evidently misinterpretations of what was intended by the statement "orienting all coordinates toward Pulkovo." The fact that the geodetic datum for the whole Soviet Bloc is to be based on Pulkovo does not, by necessity, require a change in the prime meridian. The geographic system of coordinates represented by the grid nets on maps will continue to be used throughout the Soviet Bloc, with Greenwich as the prime meridian. The following considerations lend further support to this view:

(1) No recent maps received from the USSR show a prime meridian other than Greenwich.

(2) A shift in the prime meridian to either Pulkovo or Moscow would be a cartographic operation of such magnitude that we would expect the Soviets to accomplish the transition first before imposing it upon the Satellites.

(3) The adoption by the Soviets of a prime meridian through either Moscow or Pulkovo would achieve for them no discernible scientific or military advantage. (SECRET)

ACQUISITIONS OF RECENT SOVIET MAPS

Soviet maps dated 1952 covering six union republics and one oblast have been obtained by U.S. intelligence-agency map libraries. The recent acquisitions include territorial-administrative maps for the Armenian and Kirgiz SSR's and the Saratovskaya Oblast', and general school maps for the Ukrainian, Moldavian, Azerbaydzhan, Georgian, and Armenian SSR's. The originals of these maps are held as file copies by the USAF Aeronautical Chart and Information Center; photographic copies are available for loan in the CIA Map Library.

The territorial-administrative maps include Armyanskaya SSR (CIA Call No. 81707) and Saratovskaya Oblast' (CIA Call No. 81711) at 1:600,000 and Kirgizskaya SSR (CIA Call No. 83123) at 1:1,000,000. These maps show the entire range of internal boundaries down to the rayon level. Centers of the administrative units, city subordination, and types of settlements are also given. In an accompanying table, rayons are listed alphabetically according to oblast. The rayon centers, number of sel'sovets per rayon, and a locational index key are also given. The territorial-administrative structure for Armyanskaya SSR is valid as of 14 February 1952; for Saratovskaya Oblast' as of 1 July 1952; and for Kirgizskaya SSR, as of 25 October 1952.

The general school maps are Ukrainskaya i Moldavskaya SSR (CIA Call No. 81714) at 1:750,000; Armyanskaya SSR (CIA Call No. 81735), Azerbaydzhanskaya SSR (CIA Call No. 81710), and Gruzinskaya SSR (CIA Call No. 81708), all at 1:600,000; and another for the Georgian SSR, Gruzinskaya SSR (CIA Call No. 81709), at 1:500,000. All of the school maps show internal administrative boundaries, but only the 1:600,000 map of the Georgian SSR shows these boundaries down to the rayon level, the basic mappable administrative unit. Rayon boundaries as of 1 August 1949 for the Ukraine and Moldavia appear on a 1950 map, Politiko-Administrativnaya Karta Ukrainskoy SSR i Moldavskoy SSR (CIA Call No. 75972). On each map the centers of the constituent territorial-administrative units are located and settlements are differentiated in broad population categories. Besides the usual features of hydrography and transportation, all the school maps other than the Ukraine-Moldavia map give locations of selected mineral deposits. The maps at 1:600,000 for the Armenian and Azerbaydzhan SSR's also show, by gradient tints and contours, a generalized picture of the terrain.

The territorial-administrative data appearing on the territorial-administrative map for the Armenian SSR and school maps of the Azerbaydzhan and Georgian SSR's are already obsolete.

Although established as recently as 1951-52, the oblasts and okrugs shown on these maps were abolished during the early part of 1953. [1/] The rayon structure is basically correct. Not shown on the map are two new rayons which were established in the Georgian SSR in December 1952. These are (1) the Akhaliafonskiy Rayon, with its center at Akhali-Afoni, in the Abkhazskaya ASSR, and (2) the Shuakhevskiy Rayon, with its center at Shuakhevi village, in the Adzharskaya ASSR.

These territorial-administrative and general school maps appear to be parts of new GUGK series. Maps of similar types for other territorial-administrative divisions of the USSR should be primary targets for intelligence procurement activities. (RESTRICTED)

1. See "Territorial-Administrative Changes in the USSR," CIA/RR-MR-37, 1953.

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